[INCH-POUND]
A-A-59275
[redacted]

COMMERCIAL ITEM DESCRIPTION

LOW PRESSURE ALARM

The General Services Administration has authorized the use of this commercial item description for all federal agencies

1. SCOPE.. This commercial item description covers a Low Pressure Alarm (LPA). The LPA is used to monitor the pressure inside fielded collective protection systems and provide personnel with a warning when the internal pressure drops below a safe level.

2. SALIENT CHARACTERISTICS.

2.1 Operating requirements.

2.1.1 Pressure display. The LPA shall be capable of continuously measuring and displaying the differential pressure between the inside of a shelter and the ambient surroundings with an error band not to exceed ±.01 inches water gauge (iwg).

2.1.1.1 Pressure drop discrimination (dampen). The LPA shall have a means of filtering out sudden, momentary drops of pressure due to personnel entering or exiting the shelter.

2.1.1.2 Operating pressure range. The operating range of the LPA shall be 0 to 1.0 iwg.

2.1.2 Alarm conditions. The LPA shall alarm under two conditions: when pressure falls below low pressure set point (limit), and when pressure rises above the high pressure set point (limit).

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any other data which may improve this document should be sent to: Technical Director, U.S. Army Edgewood Chemical Biological Center, ATTN: AMSSB-REN-SE-SS, Aberdeen Proving Ground, MD 21010-5424.

AMSC N/A FSC 6665

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

ATTACH 002

2.1.2.1 Condition one, low limit alarm. The low limit alarm shall have an adjustable set point. This adjustment shall be easy to use without the use of special tools and calibration equipment.

2.1.2.1.1 Low limit audio alarm. The LPA shall sound a steady audible alarm when the pressure condition inside the shelter drops below the low pressure alarm set point. The low limit audio alarm shall be a continuous tone ranging from 68 to 95 dba at a distance of 2 feet with a maximum frequency of 2900 Hz. The low limit audio alarm shall also have an on/off switch that does not effect the visual alarm. The low limit audio alarm shall automatically re–set when the pressure rises above the set point.

2.1.2.1.2 Low limit visual alarm. The LPA's low pressure alarm indicator shall light red when the pressure condition inside the shelter drops below the low pressure alarm set point. The alarm shall automatically re–set when the pressure condition is above the set point.

2.1.2.2 Condition two, high limit alarm. The high limit alarm shall be factory set at 0.85 iwg.

2.1.2.2.1 High limit audio alarm. The LPA shall sound an intermittent audible alarm when the pressure condition inside the shelter rises exceeds the high pressure alarm set point. The high limit audio alarm shall be a intermittent tone ranging from 67 to 75 dba at a distance of 2 feet with a maximum frequency of 4000 Hz. The high limit audio alarm shall automatically re–set when the pressure falls below the set point.

2.1.2.2.2 High limit visual alarm. The LPA's high pressure alarm indicator shall become flashing red when the pressure condition inside the shelter exceeds the high pressure alarm set point. The alarm shall automatically re–set when the pressure condition is below the set point.

2.1.3 Ease of installation and operation.

2.1.3.1 Installation. Installing the LPA shall be accomplished by one operator in no more than 15 minutes with no special tools. Installation includes opening of lid on transit case, removal of any connecting hardware, and attachment of bracket and power cord.

2.1.3.2 Ease of operation. The LPA shall be easy to operate. Switches, low pressure set point, and displays shall be configured and located as in TM–10–5410–283–14&P or in accordance with a similiar layout if approved by the Government.

2.1.3.3 Display markings. The markings on the LPA shall clearly identify pressure display in inches of water, the low and high pressure visual alarms, on/off switches, pressure port and adjustments.

2.1.4 Calibration. The LPA shall be easy to calibrate and not require re–calibration with in a 1 year period. The LPA shall be calibrated in accordance with ISO–10012 with accuracy

traceable to the National Institute of Standards and Technology test numbers: Pressure: Mass 822/249620, Piston & Cylinder: E2828.

2.1.5 Safety. The LPA shall pose no personnel hazards. The LPA shall be safe to install, operate, and re–pack. It shall contain no sharp edges or burrs. Materials shall be fire retardant.

2.2 Interface and interoperability requirements.

2.2.1 Size. The LPA (including a protective housing or case with hinged door) shall be no greater than 9 inches high by 8 inches wide by 5 inches deep.

2.2.2 Weight. LPA shall weigh less than 4 pounds.

2.2.3 LPA mounting bracket. The LPA shall mount and firmly attach to a mounting bracket (Drawing 5–4–7955), which is attached to an electrical distribution box.

2.2.4 Electrical distribution box. The LPA shall not interfere with the operation of the electrical distribution box. The enclosure door of the LPA shall open vertically up and not interfere with the electrical distribution box.

2.2.5 Pressure ports. The LPA shall contain two air pressure ports or taps– one tap with a 1/8–inch hose fitting for sensing air pressure outside the shelter and one tap for sensing pressure immediately outside the LPA inside the shelter. One end of the 1/8–inch flexible hose shall attach to a connector on the LPA and the other end shall attach to the bulkhead fitting on the shelter's end wall.

2.2.6 Power requirement. The LPA shall be configured to operate when input voltage is 105/135 V ac, 50/60 Hz. Power cord shall be grounded and be a minimum of 3 feet long. Power consumption from the electrical distribution box shall not exceed 5.5 watts.

2.3 Ownership and support requirements.

2.3.1 Storage life. The LPA shall have a minimum storage life of 10 years.

2.3.2 Durability.

2.3.2.1 Continuous use durability. The LPA shall be capable of at least one month of continuous use.

2.3.2.2 Erect/strike durability. The LPA and all component parts shall withstand 12 erect/strike cycles. An erect/strike cycle comprises of installing LPA and repacking connecting hardware in its self–contained case.

2.3.3 Transportability. The LPA shall be transportable by all modes of transportation. Special handling equipment or techniques shall not be required to transport the LPA.

2.3.3.1 Transport container. The LPA transportation container shall be incorporated into the overall design of the LPA, i.e. the LPA housing shall be the transportation container. All of the LPA components shall be enclosed safely inside the container for shipment with the exception of the LPA mounting bracket.

2.3.4 Manual. Each LPA shall be provided with an operator's manual.

2.3.5 Identification markings. All LPA components shall be permanently marked with the manufacturer's commercial and Government Entity (CAGE) code, part number and date of manufacture. Marks shall be legible, durable and placed conspicuously on the components.

2.4 Environmental requirements.

2.4.1 Humidity. The LPA shall be capable of operating in relative humidities of 20 to 90%.

2.4.2 Temperature. The LPA shall operate between 60°F to 110°F and operate following storage temperatures of –20°F to 160°F.

2.4.3 Transportation environment. The LPA shall not be adversely affected by shock, bounce and vibration encountered during shipment by all possible modes of transportation.

3. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation. Materials at the time of disposal shall not be a Resource Conservation Recovery Act (RCRA) hazardous waste as defined in 40 CFR 261.21 – 261.24 or 40 CFR 261.33 (e) and (f).

4. QUALITY ASSURANCE PROVISIONS. The products provided shall meet the salient characteristics of this Commercial Item Description (CID), conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The verifications in 4.1 and 4.2 shall be performed on 7 first article units with zero defects allowed or as specified in contract. The Government reserves the right to require proof of conformance for the other requirements in this CID.

4.1 Operating verification. During operating verifications, technical manual TM 10–5410–283–14&P shall be used for guidance.

4.1.1 Pressure display. The LPA shall be placed inside a shelter and the pressure inside the shelter shall be stabilized at 0.50 iwg. Verify the pressure reading on the LPA display is within the range of 0.50 ±.01 iwg.

4.1.1.1 Pressure drop discrimination (dampening). Repeat 4.1.1 while simulating personnel entering/exiting the shelter. The unit shall be internally dampened with a response time of 15 seconds. Note any sudden pressure drops during this time interval.

4.1.1.2 Operational pressure range. Stabilize the pressure inside the shelter at 0.00 iwg. Verify the pressure reading on the LPA display is 0.00 to 0.01 iwg. Then stabilize the pressure inside the shelter at 1.00 iwg. Verify the pressure reading on the LPA display is within the range of 1.00±.01 iwg.

4.1.2 Alarm conditions.

4.1.2.1 Condition one, low limit alarm. The LPA shall be placed in a shelter with a differential pressure of 0.5 iwg. The low end alarm set point shall be set at 0.4 iwg. The internal shelter pressure shall be lowered to 0.39 iwg. Verify the audio alarm sounds at 68–95 dba at 2 feet from the source. Verify the visual alarm is red and is discernable at a distance of 32 feet. Adjust the low end alarm set point to 0.3 iwg. Lower the internal shelter pressure to 0.29 iwg and verify the audio alarm sounds at 68–95 dba at 2 feet from the source. Verify the visual alarm is red and discernable at a distance of 32 feet. Raise the internal shelter pressure to 0.31 and verify the alarm silences.

4.1.2.2 Condition two, high limit alarm. The LPA shall be placed in a shelter with a differential pressure of 0.5 iwg. The high end alarm set point shall be factory set at 0.85 iwg. The internal shelter pressure shall be raised to 0.86 iwg. Verify the audio alarm sounds at 67–75 dba at 2 feet from the source with an intermittent tone in order to distinguish between the low end alarm. Verify the visual alarm is LED flashing red. Lower the internal shelter pressure to 0.84 iwg and verify alarm silences.

4.1.3 Ease of installation and operation.

4.1.3.1 Installation. Verify by demonstrating installation within 15 minutes.

4.1.3.2 Ease of operation. Verify switches, low pressure set point, and displays are configured and located as in a Government approved technical manual by examination. Verify ease of operation by demonstration using the technical manual.

4.1.3.3 Display markings. Verify markings are legible and permanently stenciled by examination and wet rub demonstration.

4.1.4 Calibration. Verify ease of calibration by demonstration. Certify attainment of other requirements.

4.1.5 Safety. Verify by examination and analysis.

4.2 Interface and interoperability verification.

4.2.1 Size. Verify the dimensions of the LPA by commercial measuring equipment or by placing the LPA inside a box which is 9¼" high by 8¼" wide by 5¼" deep and verifying no LPA components protrude out of the box.

4.2.2 Weight. Verify by measurement with scales.

4.2.3 LPA mounting bracket. Verify by examination or demonstration.

4.2.4 Electrical distribution box. Verify by examination or demonstration.

4.2.5 LPA external pressure port. Verify by examination or demonstration.

4.2.6 Power requirement. Verify by analysis of manufacturer's specification and by demonstrating that LPA functions as in TM 10–5410–283–14&P when input voltage and frequency are at the low end and high end of each range.

5. PACKAGING. Unless otherwise specified in contract or order, LPA, including self–contained case and flip–top lid, shall be packaged in accordance with ASTM D 3951 and marked in accordance with MIL–STD–129.

6. NOTES.

6.1 Acquisition requirements. Acquisition documents must specify the title, number, and date of this commercial item description.

6.2 Sources of documents.

6.2.1 Specifications and standards. Copies of documents are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111–5094 or http://assist.daps.dla.mil/quicksearch.

6.2.2 Non–Government documents. Copies of ASTM documents are available from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428–2959 or www.astm.org.

6.2.3 Code of Federal Regulations. The Code of Federal Regulations is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

6.2.4 International standards organization. ISO–10012 Quality Assurance Requirements for Measurement Equipment is available from http://www.iso.ch

6.2.5 Technical manual. TM 10–5410–283–14&P, Operator's, Unit, Direct Support, and General Support Maintenance Manual for the Chemically Protected Deployable Medical Sys-

tem (CP DEPMEDS) and CP DEPMEDS training set is available from U.S. Army Edgewood Chemical Biological Center, AMSSB–REN–P, APG, MD 21010–5424.

6.2.6 Drawings. A drawing and parts list for the mounting bracket (Mount, Pressure Gauge, CP DEPMEDS), are available from U.S. Army Soldier and Chemical Biological Command, ATTN: AMSSB–RSO–CPT(RI), Rock Island, IL 61299–7390 or U.S. Army Edgewood Chemical Biological Center, AMSSB–REN–SE, Aberdeen Proving Ground, MD 21010–5424.

6.3 Comments or suggestions. Comments or suggestions pertaining to this commercial item description should be addressed to: Technical Director, U.S. Army Edgewood Chemical Biological Center, ATTN: AMSSB–REN–SE–SS, Aberdeen Proving Ground, MD 21010–5424, the preparing activity of this document.

MILITARY INTERESTS:

Custodian:

Army – EA

Preparing activity:

Army – EA

Review activity:

SH
99

(Project 6665–0726)

ENGINEERING CHANGE PROPOSAL (ECP), PAGE 1

1. DATE (YYMMDD): 030818

Form Approved OMB No. 0704-0188

2. PROCURING ACTIVITY NO.: Z24-0438

3. DODAAC:

4. ORIGINATOR: AMSSB-REN-SE-SS	b. ADDRESS (Street, City, State, Zip Code): U.S. ARMY ECBC, AMSSB-REN-SE-SS, APG, MD 21010-5424	5. CLASS OF ECP: I
a. TYPED NAME (First, Middle Initial, Last): Craig M. Sherwood		6. JUST. CODE: D; 7. PRIORITY: R

8. ECP DESIGNATION

a. MODEL/TYPE	b. CAGE CODE	c. SYSTEM DESIGNATION	d. ECP NO.	e. TYPE	f. REV
	81361	Low Pressure Alarm	Y27-	F	

9. BASE LINE AFFECTED: [ ] FUNCTIONAL [X] PRODUCT [ ] ALLOCATED

10. OTHER SYS./CONFIG. ITEMS AFFECTED: [ ] YES [X] NO

11. SPECIFICATIONS AFFECTED / 12. DRAWINGS AFFECTED

	CAGE Code	Specification/Document No.	Rev	SCN	CAGE Code	Number	Rev	NOR
a. SYSTEM	81361	A-A-59275						
b.DEVELOPMENT	81361							
c. PRODUCT	81361							

13. TITLE OF CHANGE: Initial release of A-A-59275

14. CONTRACT NO. AND LINE ITEM

15. PROCURING CONTRACTING OFFICER
a. NAME (First, Middle Initial, Last):
b. CODE
C. TELEPHONE NO.

16. CONFIGURATION ITEM NOMENCLATURE: Low Pressure Alarm

17. IN PRODUCTION: [X] YES [ ] NO

18. ALL LOWER LEVEL ITEMS AFFECTED

a. NOMENCLATURE	b. PART NO.	c. NSN

19. DESCRIPTION OF CHANGE
Initial release of A-A-59275

20. NEED FOR CHANGE
See blk 19

21. PRODUCTION EFFECTIVITY BY SERIAL NUMBER: All

22. EFFECT ON PRODUCTION DELIVERY SCHEDULE: None

23. RETROFIT

a. RECOMMENDED ITEM EFFECTIVITY	b. SHIP/VEHICLE CLASS AFFECTED
N/A	N/A
c. ESTIMATED KIT DELIVERY SCHEDULE	d. LOCATIONS OR SHIP/VEHICLE NUMBERS AFFECTED
N/A	N/A
24. ESTIMATED COSTS/SAVINGS UNDER CONTRACT	25. ESTIMATED NET TOTAL COSTS/SAVINGS
N/A	N/A
26. SUBMITTING ACTIVITY/AUTHORIZED SIGNATURE	b. TITLE

27. APPROVAL

a. CLASS I	b. CLASS II	c. CLASS II
[x] APPROVAL RECOMMENDED [ ] DISAPPROVAL RECOMMENDED	[ ] APPROVED [ ] DISAPPROVED	[ ] CONCUR IN CLASSIFICATION OF CHANGE [ ] DO NOT CONCUR IN CLASSIFICATION OF CHANGE

d. GOVERNMENT ACTIVITY	e. SIGNATURE	f. DATA SIGNED (YYMMDD)
SFAE-BD		
g. APPROVAL: [X] APPROVED [ ] DISAPPROVED	h. GOVERNMENT ACTIVITY: RDECOM Natick	i. SIGNATURE	j. DATE SIGNED (YYMMDD): 031201

DD FORM 1692, APR 92 — Previous editions are obsolete.

Statement C. Gov't and contractors, Attn: SCBRD-ENE, APG, MD 21010-5424

NOTICE OF REVISION (NOR)

THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED

1. DATE (YYMMDD): 030818

Form Approved OMB No. 0704-0188

2. PROCURING ACTIVITY NO.: Z24-0438

3. DODAAC:

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.

4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last): Craig M. Sherwood	AMSSB-REN-SE-SS APG, MD 21010-5424	7. CAGE CODE: 81361	001
			8. DOCUMENT NO.: A-A-59275

9. TITLE OF DOCUMENT	10. REVISION LETTER		11. ECP NO.
	a. CURRENT	b. NEW	
Low Pressure Alarm			Z24-0438 0438
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES			SHEET: 1 of 2

13. DESCRIPTION OF REVISION

This NOR is to release attached A-A-59275 into Engineering Data Management system.

14. THIS SECTION FOR GOVERNMENT USE ONLY

a. (X one)		
	X	(1) Existing document supplemented by this NOR may be used in manufacture.
		(2) Revised document must be received before manufacturer may incorporate this change
		(3) Custodian of master document shall make revision and furnish revised document.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT	c. TYPED NAME (First, Middle Initial, Last): Craig M. Sherwood	
d. TITLE: General Engineer	e. SIGNATURE	f. DATE SIGNED (YYMMDD): 031201
15a. ACTIVITY ACCOMPLISHING REVISION FOR GOVERNMENT	b. REVISION COMPLETE (Signature)	c. DATE SIGNED (YYMMDD)

DD Form 1695, APR 92 *Previous editions are obsolete*